



## **Surface Water Development Design FAQs**

### ***1. I am developing a parcel in Kirkland, what are the Stormwater Requirements?***

The City of Kirkland adopted the 2016 King County Surface Water Design Manual (KCSWDM) effective January 1, 2017, along with new policies and flowcharts. Stormwater requirements depend on the project size, scope, and site characteristics. A flowchart is available to help determine which level of drainage review applies to your project, from the options below:

- Basic Drainage Review
- Simplified Drainage Review
- Targeted Drainage Review
- Full Project Drainage Review

The policies relating to submittal requirements for drainage review levels are listed below:

- Basic and Simplified Drainage Review – see PW Pre-Approved Plans [Policy D-2](#) for explanation and submittal requirements.
- Targeted and Full Project Drainage Review – see PW Pre-Approved Plans [Policy D-3](#) for explanation and submittal requirements.

### ***2. Which Stormwater Design Manual does Kirkland use?***

Kirkland adopted the 2016 King County Surface Water Design Manual (KCSWDM) effective January 1, 2017. For Kirkland specific items, see the following:

- [2016 King County Surface Water Design Manual](#)
- [Public Works Pre-Approved Plans](#)
  - Including [City of Kirkland Addendum to the 2016 KCSWDM](#) (Public Works Policy D-10).

### ***3. Where are the Stormwater Standard Details?***

The stormwater (and other) standard details are located in the [Public Works Pre-Approved Plans](#), and are available for viewing and download from our website. These standards are updated annually at the beginning of each year (last update is Jan 2017).

Due to the adoption of the 2016 KCSWDM and associated new NPDES permit requirements, there will be a July 2017 update to the Public Works Pre-Approved Plans. This mid-year update will focus on adding/revising policies and plans for stormwater and low impact development.

### ***4. Does Kirkland require Stormwater Low Impact Development?***

All projects in the City of Kirkland must consider Stormwater Low Impact Development (LID) to the

maximum extent feasible. The City requires all applicants to evaluate the feasibility of dispersion, infiltration, bioretention, and pervious pavement.

Ecology has created a new [stormwater low impact development resource website](#), including a variety of LID resources: presentations, fact sheets, videos, reports, manuals, and more.

#### ***5. Can I use permeable pavement to reduce my impervious surface lot coverage?***

A 50% exemption towards impervious surface lot coverage is available for permeable pavement, with the following requirements:

- Permeable pavement must meet design and installation criteria in the 2016 King County Surface Water Design Manual.
- A soils report is required to ensure infiltration is feasible below the permeable pavement.
- The feasibility of pervious pavement must be determined during the permitting process. If LID is determined to be infeasible during the permitting process, then applicant cannot propose pervious pavement during construction.
- For projects using permeable pavement to meet a stormwater requirement (like reduce the size of a vault or meet a flow control exception), the project will be restricted to the lot coverage used to size the flow control facility in the TIR for the LSM permit.

#### ***6. How do I find out if there are Existing Drainage Problems downstream from a potential project?***

Fill out a [Drainage & Water Quality Problem Report Form](#) and submit it online (mark the Level 1 Analysis box under Nature of Problem), or contact Kirkland surface water staff at 425-587-3800 for assistance.

#### ***7. What does Kirkland require for Erosion Control and Stormwater Pollution Prevention and Spill Control?***

All projects that will conduct construction activities onsite or offsite, must provide stormwater pollution prevention and spill controls to prevent, reduce, or eliminate the discharge of pollutants (including sediment) to onsite or adjacent stormwater systems or water courses. See Pre-Approved Plans Policy D-12 specific project requirements.

#### ***8. What are the requirements in Kirkland for Construction Dewatering?***

It may be necessary during construction to pump groundwater or excess stormwater away from the project site. This water can be contaminated with pollutants (including sediment) and cannot be discharged directly into the street or down a storm drain without any precautions. Discharges to the public stormwater drainage system must be below 25ntu, and not considered a prohibited discharge (per KMC 15.52.090). If sediment filled stormwater flows off the site, the property owner or contractor will be required to clean the street and all polluted storm drains downstream of the project, and may be subject to fines or penalties.

The following options are available to applicants for construction dewatering:

- 1) Pump the excess water to another area of the site, and allow it to disperse or infiltrate on site.
- 2) If infiltration/dispersion is not possible, water can temporarily be pumped to a storage facility (e.g., a pond or tank) to allow settling prior to discharge to storm or sanitary sewer.
  - To discharge to the storm system, water turbidity must be less than 25ntu and cannot have an odor of solvent gasoline, hydrogen sulfide (rotten egg odor), oil sheen, or unusual color.
- 3) Before discharging to the sanitary sewer:

- Notify the City of Kirkland, Public Works Inspector at (425) 587-3800.
- All projects (except Single Family Infill) must obtain permit authorization from the King County Industrial Waste Program at 206-263-3000 or [Construction dewatering - King County](#).
- Single family infill projects may discharge to sanitary sewer without a permit from King County Industrial Waste Program as long as the discharge is less than 7 mg/L of suspended solids.

#### ***9. What Level of Flow Control is required in Kirkland?***

There are two levels of flow control used in Kirkland; basic flow control (level 1) and conservation flow control (level 2). The level is determined by the project site location and its proximity to sensitive areas. Please refer to the [flow control map](#) (click "Agree" and navigate to map) or contact surface water staff at 425-587-3800 for assistance. When determining detention volumes, projects in level 1 areas can use existing site conditions for pre-developed modeling but projects in level 2 areas must use historic "forested" conditions for pre-developed modeling.

#### ***10. What is a Construction Stormwater General Permit and when is it required?***

The [Construction Stormwater General Permit \(CSWGP\)](#)  is issued by the WA State Department of Ecology, as part of the Federal Clean Water Act. Project sites 1 acre or larger are required to submit a Notice of Intent to Ecology and obtain coverage under Ecology's construction permit.

#### ***11. What are the Stormwater Quality Treatment levels?***

The threshold for stormwater quality treatment is 5,000ft<sup>2</sup> or more pollution generating impervious surface area on a project. There are two levels of water quality treatment required in Kirkland:

- **Basic water quality treatment** (provides 80% removal of total suspended solids) is required for single family residential projects (with less than 8 dwelling units per acre) and roads with less than 2,000 ADT.
- **Enhanced basic water quality treatment** (provides 30% reduction of dissolved copper, and >60% removal of dissolved zinc, in addition to removal of suspended solids) is required for all industrial, commercial, and multi-family projects, regardless of overall project size. Enhanced treatment is also required for roads with 2,000 ADT or greater and high density single family residential projects (8 dwelling units or more per acre).

#### ***12. Do I need Soil Information for my development project to meet stormwater design requirements?***

The requirements for a Soil Report vary based on the size and scope of a project. In general, a soil report is required on most projects to assess the feasibility of infiltration. Pre-Approved Plans [Policy D-8](#) (PDF) contains the soil information required for the design of surface water BMPs. There are many other reasons a soil report is necessary for a project (e.g., steep slopes, sensitive areas, etc.), and the surface water requirements do not replace requirements from other departments.

#### ***13. Is Synthetic Turf the same as Grass in a Stormwater Drainage Design?***

Not always. If the synthetic turf is installed with an underdrain system, the entire area is considered 100% new impervious surface, per the definition of new impervious surface area in the 2016 KCSWDM. If the synthetic turf is installed without an underdrain, the entire area is considered 100% pervious and can be modeled as traditional turf grass.